

Technical Report 1203

Case Method Instruction: 25 Minutes of Discussion Can Make a Difference

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CASE METHOD INSTRUCTION: 25 MINUTES OF DISCUSSION CAN MAKE A DIFFERENCE

EXECUTIVE SUMMARY

Research Requirement:

Although case method instruction has been embraced as an effective teaching approach, little empirical work has investigated this claim. This report describes research that investigated the importance of the discussion component of case method instruction to learning. This research also extends previous work on case method instruction by incorporating both student and instructor perspectives on the instructional approach. Additionally, this research explored whether a specific case, *Power Hungry*, geared toward junior officers could be generalized to a different instructional audience.

Procedure:

One-hundred-eighty-two cadets and six instructors from the United States Military Academy completed questionnaires about a case study presented as part of a course offered through the Simon Center for the Professional Military Ethic. Cadets were asked to identify six of the most critical leadership errors that they observed during the case study; cadet responses were later scored for content and quality. One-hundred-and-seven cadets completed the questionnaire prior to discussion and 75 cadets completed the questionnaire after discussion. Instructor questionnaires were used to assess whether instructors believed that the lesson was effective, as well as to determine what topic areas were discussed during class.

Findings:

Results indicated that cadets identified more leadership issues and produced better quality answers after participating in discussion, even though discussion was relatively short (i.e., approximately 25 minutes). Instructors indicated that they would have preferred more time to conduct discussion, but believed that the lesson accomplished their teaching objectives. Instructors further indicated that they would recommend using the *Power Hungry* case study again. Results also indicated that discussion focused primarily on content noted in the instructor's manual for the case study. In sum, results indicated that the case study, *Power Hungry*, has educational value for a cadet audience.

Utilization and Dissemination of Findings:

This research provides empirical evidence that discussion is an important part of the case method process. For practitioners of case method instruction, the results of this investigation indicate that even discussion of relatively short duration can yield benefits to student learning. With respect to the *Power Hungry* case study specifically, these findings suggest that *Power Hungry* would be useful as part of leadership education for cadets and the Reserve Officer Training Corps (ROTC).

CASE METHOD INSTRUCTION: 25 MINUTES OF DISCUSSION CAN MAKE A DIFFERENCE

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Case Method Instruction: 25 minutes of Discussion can make a difference

Introduction

Case method instruction has been an accepted educational technique in higher education for almost a century. Popularized by Harvard Business School in 1910 (Jennings, 1996), case method instruction is found in a variety of professional disciplines including medicine, education, ethics, law, business, and the military (e.g., Borden, 1998; Green & Cotlar, 1973; Hassall, Lewis, & Broadbent, 1998; Owens, Padula, & Hume, 2002; Rempt, 2003; Stewart & Dougherty, 1993; Tarnvik, 2002; Williamson, 2001; Wright, 1996). In traditional applications of case method instruction, instructors assign a paper-based case study to students as homework. The case study might be either a historical account or a realistic fiction (Jennings, 1996; Maltby, 2001). Students then read the case and prepare for discussion of the case during the next class meeting. Once students arrive at class, the instructor facilitates group discussion to elicit specific points, challenge student assumptions, and engage problem-solving and analytical skills. Over time, case method instruction has evolved to encompass several variations of the approach, including the use of filmed cases and technology-facilitated discussion or reflection (e.g., Borden, 1998; Cavalier & Weber, 2002; Green & Cotlar, 1973; Hill et al., 2006; Leeper, 1993; Richardson, 1994; Sprau, 2001).

The discussion component of case method instruction may be particularly important to the learning process. For instance, the questioning and answering that occur during discussion are believed to encourage students to be active participants in the learning process and to process material at a deeper level (Zbylut & Ward, 2004b). Likewise, discussion can prompt self-examination and compel students to evaluate the arguments of other students (Garner, 2000). Such critical examination is likely to occur when discussion triggers a reflective process that requires students to reorganize and reevaluate views of their initial position (Wright, 1996). In addition to the cognitive benefits of case method instruction, the group discussion component of case method instruction is purported to foster the development of interpersonal and communication skills (Crittenden, Crittenden, & Hawes, 1999; Jennings, 1996).

On its surface, case method instruction appears to be a straightforward educational technique; students are exposed to a case study, which they later discuss. However, effective facilitation of discussion is hardly a simple process. First, instructors must select or create an appropriate case to accomplish the learning objectives that they have outlined. Second, after having selected a case, instructors must devote significant time and effort in preparing to discuss the case, investing as much as 20 hours to prepare (Diamantes & Ovington, 2003). Instructor preparation requires (a) building a complete understanding of the case, (b) constructing discussion questions to elicit key points and influence student thought processes, and (c) anticipating potential student statements, misconceptions, and questions that might arise during discussion. Third, instructors must orchestrate the discussion in such a way that they spend minimal time lecturing and maximal time soliciting a variety of student perspectives. Moreover, the instructor must be able to manage the group discussion process so that no one student dominates the discussion, less talkative students participate, the discussion stays on topic, differing student opinions do not devolve into destructive confrontations, and students end the

discussion more knowledgeable than they were prior to discussion. In sum, conducting effective case method instruction requires instructors to be both dedicated and skilled.

Regardless of the intricacies of conducting case method instruction, the approach has been almost universally embraced as an effective teaching methodology. Practitioners have claimed several benefits to the case method approach. One of the most commonly cited benefits is that case method instruction stimulates critical and creative thinking (e.g., Jennings, 1996; McDade, 1995; Stewart & Dougherty, 1993; Wright, 1996). Another frequently cited benefit is that case studies provide students with an opportunity to apply the abstract lessons learned from books and lectures to the concrete situation described in a case (Jennings, 1996; Wright, 1996). Case studies provide students with a glimpse into interesting real-world situations while maintaining the safety and structure of a controlled classroom environment. The use of realistic case studies paired with discussion also intellectually engages and emotionally invests students in the learning process (Bocker, 1987; Jennings, 1996).

Although many instructors endorse case method instruction as a valuable technique, little empirical research has tested the effectiveness of this approach. A few exceptions exist. For example, Hassall, Lewis, and Broadbent (1998) collected student ratings on a semester-long financial decision making course that relied on case method instruction. Students reacted positively to the course, indicating that the case method approach was effective in developing a range of knowledge, skills, and abilities including the ability to work in a group, negotiation skills, presentation skills, the ability to integrate subject skills and knowledge, and the ability to clearly define problems. While important in providing evidence that students believe that case method instruction is effective, this research is limited in that objective measures of learning were not included.

Stewart and Dougherty (1993) compared two undergraduate process cost accounting classes taught by the same instructor. In one class students were taught with lecture and textbook (i.e., control condition); in the other class students were exposed to lecture, textbook, and a case study. Five weeks into the course and prior to case exposure, students in both classes scored comparable to one another on a course exam. However, on the final exam, students in the case method condition scored higher on an essay portion of the exam than did students in the control condition. This finding suggests that the case method approach is not only effective in helping students develop conceptual understanding and analytical thinking, but contributes educational value beyond what is offered in a traditional lecture format. Other research indicates that case method instruction is superior to lecture (Bocker, 1987).

Green and Cotlar (1973) tested different approaches to case method instruction. As part of a 10-week course on management principles, students were exposed to case method instruction using either paper-based cases or film-based cases. Four weeks after beginning case method instruction, students in the film condition rated the case as significantly more realistic than students in the paper case condition. Students in the film condition also scored higher with respect to understanding management principles than did students in the paper condition. No difference in transfer of principles to other tasks was found between the two conditions, however.

Green and Cotlar's (1973) work is important because it was one of the few investigations to test the impact of media on the effectiveness of case method instruction. Specifically, Green and Cotlar demonstrated that filmed cases might be more effective than paper cases in promoting learning. Later research conducted by Zbylut, Ward, and Mark (2005) extended the work on media effects by comparing a filmed case to a case presented in PowerPoint. Zbylut et al.'s research indicated that the filmed case evoked a stronger emotional response and was rated as more realistic and less confusing than the PowerPoint version of the case. Moreover, research participants were able to recall more scenario details from the filmed case than from the PowerPoint case. These results are particularly surprising given that the PowerPoint scenario included over 100 still images from the film version, as well as the complete audio track from the film. Taken together, the results of Green and Cotlar (1973) and Zbylut et al. (2005) provide evidence that the medium in which a case study is delivered is important.

Despite evidence of media effects, the case medium may not be nearly as important as the discussion or reflection that follows the case. Research conducted by Cavalier and Weber (2002) appears to demonstrate this point. Cavalier and Weber examined three types of media for presenting a case on medical ethics. The case centered on the ethical question of an individual's right to die. In the case, medical professionals were confronted with a badly burned individual who requested that he be allowed to die rather than undergo a painful recovery process and life-long disfigurement. Students were exposed to one of three conditions: (1) a text-based narrative of the case paired with additional written documentation, (2) a filmed documentary about the case, or (3) an interactive CD that included pieces of the documentary paired with Socratic dialog for guiding case analysis and individual reflection. Unlike traditional case method instruction, no instructors facilitated discussion and analysis of the case. Results indicated that students learned most in the CD condition that included both film clips and guided inquiry. Given that the film and text conditions did not include guided inquiry, such results suggest that the reflection component of case method instruction plays an important role in the learning process. However, the content in the three conditions was not completely equivalent, so it is difficult to attribute better test performance directly to guided inquiry and reflection.

Research conducted by Zbylut et al. (2007) provided a more direct test of the benefit of case discussion and analysis to learning. In their investigation, they examined the effectiveness of an online variation of case method instruction in which student discussion was facilitated by computer rather than an instructor. In a comparison of pretest and posttest scores, students performed better on a judgment test and placed stronger emphasis on relevant instructional content after participation in discussion. However, this research was limited in that the research design utilized a within-subjects design without a control group. Thus, the pretest might have primed students to focus on the relevant test content during discussion of the module, and the higher posttest results might have been due to a combination of priming effects and discussion rather than discussion alone.

In sum, it appears that case method instruction has been often used, but less frequently evaluated. An instructional exercise at the United States Military Academy (USMA) provided an opportunity to explore both instructor and student perspectives on case method instruction, as well as test a specific military case study product.

The Current Investigation

The *Power Hungry* case study is a film about a fictional food distribution operation in Afghanistan (Hill, Douglas, Gordon, Pighin, & van Velsen, 2003). During the film, a captain encounters a variety of leadership challenges, including inexperienced subordinates, the unexpected presence of a brigade command sergeant major on site, warlords, poor terrain, and Afghan civilians. The captain also makes several leadership mistakes, such as failing to communicate his intent, verbally berating subordinates in public, and losing focus on the mission. The film ends with mission failure and warlords seizing both the food and the non-governmental organization (NGO) trucks carrying the food.

The *Power Hungry* case is part of a larger instructional system called *Army Excellence in Leadership* (AXL)¹ that delivers case method instruction in an online environment. In the AXL environment, students watch a filmed case study and then the computer facilitates discussion and analysis of the case with respect to several leadership and cultural issues. Instructor intervention is not required for students to engage and learn from the AXL system. Although the AXL system is capable of facilitating case method instruction without the aid of an instructor, the case studies embedded in the AXL system can be used in traditional classroom environments. To assist instructors who wish to use AXL films in their classes, instructor manuals for facilitating discussion around the cases have been created (Metcalf & Zblyut, 2007; Zblyut & Ward, 2004b). The *Power Hungry* manual provides discussion questions for the following topics:

- Command Climate
- Command Influence
- Communication
- Cultural Awareness
- Model of Command
- Mission Clarity
- Respect the Experience of Non-commissioned Officers (NCOs)
- Providing Guidance to Subordinates
- Leadership Assessment

The Simon Center for the Professional Military Ethic (SCPME) at USMA requested to use the *Power Hungry* film as a tool for discussing leadership issues with their senior class. This provided a unique opportunity to explore several research questions of interest about the effectiveness of case method discussion, in general, and about the *Power Hungry* case study in particular. At a general level, we were interested in determining whether the discussion portion of case method instruction impacted learning. At a more specific level, we were interested in determining whether cadets were an appropriate audience for the *Power Hungry* case study, because *Power Hungry* and its instruction manual (Zblyut & Ward, 2004b) were developed to target junior Army officers. Additionally, while previous research demonstrated that students (primarily NCOs and officers) believed that instructor-facilitated discussion of *Power Hungry* was effective (Zblyut & Ward, 2004a), this provided a chance to collect measures of learning based on indicators other than student self-reports. Specifically, cadet answers were scored for content and quality, and instructor reports of discussion quality were collected. Since prior research on case method instruction primarily focused on the student's perspective, the collection of instructor reactions offered an alternative perspective generally not captured quantitatively in

¹ AXL is a collaboration between the United States Army Research Institute for the Behavioral and Social Sciences (ARI) and University of Southern California's Institute for Creative Technologies (ICT).

the case method literature. Instructor data also were used to determine what topics cadets discussed during class and explore whether instructors focused the discussion on topics covered in the *Power Hungry* manual or chose instead to focus on other topics.

Method

Participants and Procedure

The senior class at USMA (approximately 1,000 cadets) participated in a discussion of *Power Hungry* as part of an undergraduate course offered by the SCPME. Classes were randomly assigned to either complete questionnaires after watching *Power Hungry* but before class discussion (pre-discussion condition) or to complete questionnaires after class discussion (post-discussion condition). Eleven instructors returned questionnaire data for 17 classes, resulting in a sample size of 182 cadets and a survey return rate of approximately 18%. Ten classes were in the pre-discussion condition ($n = 107$) and seven classes were in the post-discussion condition ($n = 75$). Each class ranged from five to 22 students, with an average of 11 students per class. The pre-discussion ($M = 10.70$) and post-discussion ($M = 10.71$) classes were equivalent in class size on average, and six of the eleven instructors each had a pre-discussion and a post-discussion class.

In both conditions cadets watched the *Power Hungry* film, which lasts approximately 13 minutes. Additionally, in both conditions instructors facilitated discussion of leadership issues in their class for approximately 20-30 minutes. During discussion, some instructors opted to include “character interviews,” which are additional film clips depicting the characters stating their thoughts, feelings, and evaluations of what transpired in the scenario. Because class time was limited to 55 minutes, it was left to the instructor’s discretion about whether to include character interviews during class.

Cadets in the pre-discussion condition completed a questionnaire about leadership issues prior to discussing the film, while cadets in the post-discussion condition completed the questionnaire after discussing the leadership issues in the film. Given constraints on class time, the cadet questionnaire was only one page and designed to be completed in 10 minutes or less. On the questionnaire, cadets were asked to list up to six of the biggest errors made by the leaders in *Power Hungry* and to be as specific as possible. The post-discussion group answered an additional item pertaining to the usefulness of the discussion in helping them think about leadership issues. The post-discussion questionnaire is located in Appendix A.

In addition to collecting data from cadets, instructors were asked to complete a short questionnaire about their experience using *Power Hungry*. Six of the eleven instructors who provided cadet data returned these questionnaires.

Measures

Cadet Measures

Each cadet had an opportunity to list up to six errors made by the leaders in the *Power Hungry* film. The errors were scored in three different ways. First, the *total number of errors* that cadets listed were counted. This provided an index of whether cadets who engaged in film discussion were able to identify more problems in the scenario than cadets who did not engage in discussion.

Second, two researchers classified each error into the separate categories of leadership, cultural, and tactical issues to explore whether discussion about leadership improved cadets' ability to identify leadership issues in the scenario. The *Power Hungry* film was designed to interweave tactical, cultural, and leadership challenges into one scenario, and prior research indicated that captains and cadets who analyzed the film identified issues from all three of these categories² (Ben-Yoav Nobel et al., 2006). Errors were classified in the *leadership* category if they dealt with interactions between a leader and a subordinate. These included issues such as general communication, providing guidance to subordinates, using an appropriate tone, gathering expertise from others, and maintaining composure. Interrater reliability for errors classified as leadership content was $r = .79$ (89.67% agreement). Errors were classified in the *cultural* category if they reflected that leaders lacked cultural awareness, problems in dealing with the local population, or mishandling the warlords. Interrater reliability for errors classified as cultural content was $r = .77$ (94.56% agreement). Errors were classified as *tactical* if they focused on tactical decision making and planning, terrain issues, security issues, or use of physical resources (e.g., weapons, fencing, radios). Interrater reliability for errors classified as tactical content was $r = .74$ (89.44% agreement). Disagreements were resolved by discussing the issues with a third researcher. After resolution of disagreements, an overall score for each category was computed for each cadet by summing the number of errors that he or she identified within a category.

Third, researchers scored each error for quality, and then computed an overall "answer quality" score for each cadet by summing the quality across the errors. Quality scores for each error ranged from -1 to 3 points. An error received -1 if it was an incorrect statement about the film. For example, one cadet's answer indicated that the first lieutenant told the first sergeant to "invent and improvise," and this did not occur in the film.

In a few instances, errors were nonsensical or irrelevant. Errors of this nature received zero points. For example, a statement like "CO vs. XO" received zero points because it was unclear what was meant by that statement. As another example, a statement like "very hot" received zero points because it technically was not an error made by the leaders in the film. Only 10 of the 902 errors coded received zero points for being nonsensical.

An answer received 1 point if it was vague and did not include a sufficiently descriptive or evaluative component. For example, a statement like "talking to Omar" appeared to address a cultural issue embedded in the film, but it was unclear what the cadet believed was problematic

² Analysis of the film without discussion.

about speaking to Omar. Statements that were more descriptive or included an evaluative component received 2 points. An example of a statement receiving two points was “Captain did not provide enough guidance to Soldiers.”

More complex answers received 3 points; these were answers that demonstrated causal reasoning or linked two or more concepts together in an explanatory fashion. Examples of statements receiving 3 points were “Correcting subordinates in front of wrong people; created a destructive command climate” and “CPT should have been more specific in the orders he issued because his XO and platoon leaders were lost.” In the first example, the cadet’s statement indicates a linkage between how disciplining subordinates in public contributed to a destructive command climate, thus linking leader actions to group climate. In the second example, the cadet’s answer indicated that the appropriate action of the leader (i.e., providing more detailed orders) was dependent on the state of the follower (i.e., Soldiers were confused). Interrater reliability for answer quality was $r = .90$ (94.57% agreement). Disagreements among raters were discussed and reconciled before computing an overall answer quality score. Answer quality scores were computed by summing the quality of the individual errors identified by each cadet. Consequently, quality scores could range from -6 to +18.

In addition to listing up to six errors made by leaders in the film, cadets in the post-discussion condition completed an item to indicate how useful they thought the discussion was in helping them think about leadership issues. The item was anchored on a nine-point scale ranging from -4 (*completely useless*) to +4 (*completely useful*). Zero represented a neutral point. Cadets in the pre-discussion condition did not receive this item.

Instructor Questionnaire

Instructors were given a brief questionnaire to assess the discussion, film, and possible changes they would make to the lesson (see Appendix B). Four of the items asked the instructors to rate the quality of the discussion, the usefulness of the film in addressing leadership issues, if the lesson accomplished the learning objectives of the class, and if they would recommend using the film in the future. The four items were rated on a nine-point scale ranging from -4 to +4, with zero as a neutral point. Additionally, instructors were asked what they would do the same and what they would change if they conducted the lesson again.

Instructors also indicated the extent to which 23 different topics were discussed in their classes. These topics represented topics included in the instructor manual, as well as topics discussed in other applications of *Power Hungry*. Examples of these topics are communication issues, building trust, warrior ethos, tactical issues, and negotiation. Instructors indicated the degree to which each topic was discussed using a five-point scale ranging from 1 (*no discussion at all*) to 5 (*dominated most of the discussion*).

Results

Cadet Performance and Reactions

Descriptive Statistics

The means and standard deviations across conditions for the cadet variables are presented in Table 1. Cadets rated the discussion as somewhat useful in helping them think about leadership issues ($M = 2.02$, $SD = 1.41$), although cadet ratings were lower than instructor ratings ($M = 3.17$, $SD = 0.75$).

Across conditions, cadets identified an average of five errors from the scenario. Of the errors identified, cadets tended to list more leadership errors than cultural and tactical errors. Overall, cadets identified few cultural errors, and the cultural errors that were identified tended to be at a general level of detail. In examining the answers provided by cadets, the primary cultural error indicated by cadets was that leaders “lacked cultural awareness.”

Learning

Although cadet and instructor reactions are important indicators of user acceptance of an instructional product, of greater interest is whether cadets learned from the instruction. To examine the impact of discussion on learning, we used three indicators. First, we examined whether cadets who engaged in discussion identified more errors made by the leaders in *Power Hungry* than cadets who had not participated in discussion. Second, we examined whether cadets who participated in discussion specifically identified more *leadership* errors than cadets who had not participated in discussion. Third, we examined whether cadets who participated in discussion provided higher quality and more detailed answers than cadets who had not participated in discussion. The results of these analyses are summarized in Table 2 and described in greater detail in the following paragraphs.

Table 1

Means and Standard Deviations of Cadet Reactions and Performance Across Conditions ($n = 182$)

Variable	<i>M</i>	<i>SD</i>
Usefulness of the Discussion ^a	2.02	1.41
Total Number of Errors Identified	4.92	1.22
Number of Leadership Errors Identified	2.80	1.31
Number of Tactical Errors Identified	1.44	1.22
Number of Cultural Errors Identified	0.64	0.67
Overall Answer Quality	8.64	2.98

^a $n = 75$ because the pre-discussion group did not complete this item.

Table 2
Means and Standard Deviations of Cadet Reactions and Performance by Condition

Variable	Pre-Discussion (n = 107)		Post-Discussion (n = 75)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Total Number of Errors Identified **	4.69	1.27	5.25	1.08
Number of Leadership Errors Identified ***	2.35	1.22	3.45	1.15
Number of Tactical Errors Identified *	1.62	1.22	1.19	1.18
Number of Cultural Errors Identified	0.70	0.66	0.55	0.68
Overall Answer Quality *	8.27	2.99	9.16	2.91

Note. *** $p < .001$, ** $p < .01$, * $p < .05$.

Total number of errors identified. If one objective of case-method discussion is to help cadets analyze the scenario, then one indicator that discussion is useful would be that cadets could identify more errors made by leaders in the scenario after discussing the scenario than they could prior to engaging in discussion. Cadets in the post-discussion condition generated more errors ($M = 5.25$, $SD = 1.08$) than cadets in the pre-discussion condition ($M = 4.69$, $SD = 1.27$), $t(180) = 3.12$, $p < .01$.

Emphasis on types of content. Discussion was intended to focus cadets on the *leadership* content in the scenario. Thus, in addition to identifying more errors after participating in discussion, cadets specifically should be able to identify more *leadership* errors after discussion. An independent-samples *t*-test was conducted to examine if cadets placed stronger emphasis on leadership content after group discussion. Results indicated that cadets cited more leadership issues after discussing the film ($M = 3.45$, $SD = 1.15$) than cadets in the pre-discussion condition ($M = 2.35$, $SD = 1.22$), $t(180) = 6.16$, $p < .001$. This finding provides evidence that discussion helped cadets to focus on the leadership content presented in *Power Hungry*.

Because cadets were constrained to listing the six biggest errors committed by leaders in *Power Hungry*, an identification of more leadership errors could result in a reduction of the other types of errors listed as the most important issues of the scenario. With respect to tactical issues, fewer tactical issues were listed post-discussion ($M = 1.19$, $SD = 1.18$) than pre-discussion ($M = 1.62$, $SD = 1.22$), $t(180) = 2.37$, $p < .05$. The reduction in the number of tactical errors reported is most likely a methodological artifact created by the six-error ceiling imposed on cadets rather than an “unlearning” of tactical knowledge. That is, by emphasizing more leadership errors post-discussion, cadets had less opportunity to report tactical errors. With respect to cultural errors, the pre-discussion and post-discussion cadets identified a similar number of errors, $t(180) = 1.53$, $p > .05$. As noted earlier, the number of cultural errors listed was small ($M = .64$, $SD = .67$), suggesting that culture was either not a salient topic for cadets or they were unable to list many cultural errors.

Overall answer quality. In addition to examining the number and types of errors identified by cadets, errors were scored for answer quality. An independent-samples *t*-test was conducted to examine if the overall quality of cadets' answers improved after group discussion. Results indicated that the quality of the errors cited were of a better quality after discussion ($M = 9.16$, $SD = 2.91$) than before discussion ($M = 8.27$, $SD = 2.99$), $t(180) = 2.00$, $p < .05$. Thus, discussion appeared to improve the overall quality of the answers generated by cadets.

Instructor Ratings

Historically, *Power Hungry* has been used to precipitate discussion of a variety of topics. While all of these topics are relevant to the *Power Hungry* scenario, some of these topics are included in the manual, and some are not (e.g., negotiation). During the present exercise, instructors from USMA indicated that the three most discussed topics in their classes were the importance of using the experience and advice of NCOs ($M = 3.83$, $SD = 0.41$), directing and supervising subordinates ($M = 3.67$, $SD = 0.82$), and establishing a positive unit climate ($M = 3.50$, $SD = 0.55$). These three topics correspond to topics covered in the instructor's manual—specifically, respecting the experience of NCOs, providing guidance to subordinates, and command climate. Other topics covered in the instructor's manual were discussed during class, as well; these topics were cultural issues ($M = 3.33$, $SD = 0.52$), communication issues ($M = 3.33$, $SD = 1.03$), and establishing and communicating mission intent and purpose ($M = 3.17$, $SD = 0.75$). Another topic in the instructor's manual, model of command, was less discussed as indicated by ratings on the topic of leading by example ($M = 2.67$, $SD = 1.03$). In general, topics not covered by the instructor's manual received less attention during discussion. The least discussed topics were warrior ethos ($M = 1.50$, $SD = 0.55$), taking care of Soldiers ($M = 1.67$, $SD = 0.82$), and balancing the mission with Solider welfare ($M = 1.62$, $SD = 0.52$). The means and standard deviations for instructor ratings of the different discussion topics are provided in Table 3.

With respect to instructor reactions to the lesson, instructors rated the quality of cadet discussion as high ($M = 2.67$, $SD = 0.52$). Instructors also indicated that the film was useful as a case study about leadership issues ($M = 3.17$, $SD = 0.75$) and felt that they were successful in accomplishing important learning objectives ($M = 2.67$, $SD = 0.82$). When asked if they would recommend using the film again, most instructors indicated they would definitely use *Power Hungry* ($M = 3.67$, $SD = 0.52$).

Given the small sample of instructors, there was not enough information to group open-ended comments into categories or themes. Thus, individual instructor comments about things they would continue or change with respect to the *Power Hungry* lesson are reported instead.

Table 3
Means and Standard Deviations of Topics Discussed

Topic	<i>M</i>	<i>SD</i>
Using the Experience and Advice of NCOs	3.83	.41
Directing and Supervising Subordinates	3.67	.82
Establishing a Positive Unit Climate	3.50	.55
What Characters Should Have Done Differently	3.33	.52
Cultural Issues	3.33	.52
What Went Wrong in the Scenario	3.33	.82
Respecting Others	3.33	.82
Communication Issues	3.33	1.03
Establishing and Communicating Mission Intent and Purpose	3.17	.75
Developing Subordinates	2.83	.75
Planning and Decision Making	2.83	1.17
Leading by Example	2.67	1.03
Situational Awareness	2.50	.55
Tactical, Logistical, and Technical Issues	2.50	.55
Influencing and Persuading Others	2.50	1.22
Building Trust	2.00	.63
Negotiation	2.00	.89
Motivating Subordinates	2.00	.89
Ethical Issues	2.00	1.10
Self-awareness	1.83	.75
Balancing the Mission with Solider Welfare	1.67	.52
Taking Care of Soldiers	1.67	.82
Warrior Ethos	1.50	.55

Note. *n* = 6 instructors. Rating scale: 1 = No Discussion at All, 2 = Briefly Mentioned, 3 = Some Discussion, 4 = Quite a Bit of Discussion, 5 = Dominated Most of the Discussion.

Instructors noted several things that should be continued in conducting discussions about *Power Hungry*. Two instructors stated they would continue to use the character interviews as part of the discussion with the film. One instructor noted that, “Having these interviews with the various film figures and checking on those as discussion naturally goes to the content of those interviews is excellent.” Other things that instructors said that should be continued when conducting discussions about *Power Hungry* included:

- Allowing cadets to steer the direction of the discussion
- Using group discussion as a teaching technique to promote student learning
- Conducting a train-the-trainer session to prepare instructors for class discussion
- Continuing to use *Power Hungry* as a case study for discussing leadership

With respect to what could be changed about the lesson, four of the six instructors indicated that 55 minutes to watch the film, cover the interviews, and conduct a productive discussion was an inadequate amount of time. One instructor reported that it would be better to conduct the discussion across two or three sessions to cover different learning objectives. Other instructor suggestions about what could be improved included:

- Having an NCO and officer in each classroom
- Making the lesson more focused on decision-making rather than command climate and respecting the experience of NCOs
- Having an approved solution for each discussion question
- Better preparation on the discussion questions for each topic

Discussion

The present investigation contributes to the sparse empirical literature on case method instruction. Specifically, the results of this investigation indicated that the discussion component of case method instruction contributed to the student’s ability to analyze the scenario, as demonstrated by cadets’ diagnosis of more errors in the scenario, emphasis on leadership content, and propensity to articulate higher quality answers. Such findings are consistent with claims made by practitioners of case method instruction—namely, that the approach contributes to critical and analytical thinking (Jennings, 1996; McDade, 1995; Stewart & Dougherty, 1993; Wright, 1996). Furthermore, these results are encouraging given that learning took place in the relatively short timeframe of 20-30 minutes of discussion.

Despite evidence of learning, instructors indicated that they would have preferred more time to conduct discussion. These findings mirror earlier findings with *Power Hungry* in which students indicated that 20-30 minutes of group discussion was not enough time to discuss the film in its entirety (Zbylut & Ward, 2004a). Anecdotal reports of applications of *Power Hungry* suggest that a minimum of 45 minutes should be allotted for discussion, if not more. Future research should investigate whether a longer period of discussion results in additional learning, as well as explore potential time limits with respect to holding student attention. That is, at what time does discussion reach a point of diminishing returns?

Consistent with research on both case method instruction (Green & Cotlar, 1973; Hassall et al., 1998) and instruction with *Power Hungry* (Zbylut & Ward, 2004), students responded

favorably to the instructional approach. While past research primarily focused on student perspectives, the current investigation extends that research by incorporating instructor perspectives. Instructors provided corroborating perceptions that the case method approach was effective in instructing students. Instructors indicated that discussion quality was high, *Power Hungry* was useful as a case study about leadership, learning objectives were accomplished, and they would recommend using the film again.

Instructors also reported that much of the discussion in their classes focused on topics covered in the *Power Hungry* instructor manual (Zbylut & Ward, 2004b). Given that discussion of this content appeared to facilitate learning, such findings underscore the importance of having an instructor's manual or detailed notes available for case studies. Because instructor preparation of a case can be labor and time intensive (Diamantes & Ovington, 2003), instructor manuals that offer case analysis and discussion questions could serve as a valuable resource for instructors.

An additional finding of this research was that the *Power Hungry* film is applicable to an unanticipated student audience—cadets. *Power Hungry*, as part of the AXL system, was created to help junior officers develop their tacit leadership knowledge and cultural understanding. However, as demand for the case study has grown, the usefulness of this product has been demonstrated with multiple audiences, including NCOs (Zbylut & Ward, 2004a) and now cadets.

Several limitations to this research should be noted. First, although the sample size of cadets ($n = 182$) was large enough to conduct statistical analyses, the overall return rate of questionnaires was low for both cadet and instructor questionnaires. While it is unclear why the return rate was so low, a potential explanation is that instructors who were dissatisfied with instruction might have opted not to return data for themselves or their cadets. If this were the case, the results in this report would have grossly overestimated the positive benefits of case method instruction. However, the USMA coordinator of the various classes conducting the *Power Hungry* exercise indicated that the film and instructional approach were well-received. Additionally, several instructional audiences in the past have reacted positively to AXL case method instruction (e.g., Hill et al., 2006; Zbylut & Ward, 2004a; Zbylut et al., 2005), so it is unlikely that the low return rate would be due solely to dissatisfaction with the teaching method. A more likely explanation is that many instructors did not want to take additional time away from discussing the film by having their cadets complete a survey. Previous research on *Power Hungry* indicated that students wanted longer than 20-30 minutes to discuss the film (Zbylut & Ward, 2004a), and this also might have been the case at USMA. As a result, instructors may have opted to spend more time during discussion rather than to complete their questionnaires or have cadets complete their questionnaires. Unfortunately, a higher return rate of instructor questionnaires would have been particularly beneficial, as it would have allowed for an analysis of the relationship between the content discussed during class and cadet learning. Given that only six instructors completed the questionnaire, there was not enough variability to explore the relationship between topic content and cadet learning. Future research, however, should examine this question, as well as investigate how different types of discussion questions (e.g., asking students to bring prior experiences into discussion, telling students to diagnose portions of the scenario, encouraging students to generate solutions to problems encountered in the scenario) impact different aspects of learning. For example, asking students to diagnose problems in a

case study might stimulate analytical thinking, but generating solutions to problems encountered in the case study might facilitate training transfer. Second, because of constraints on class time, there were practical limitations on how many variables could be measured in this research. Optimally, additional indicators of learning would have been collected, such as transfer of leadership concepts to another scenario.

Despite such limitations, the findings of this research provide evidence that case method discussion plays an important role in learning, even when discussion is of relatively short duration. Twenty to 30 minutes of discussion was enough time to focus students on specific leadership content and to improve students' ability to produce a higher quality analysis of the scenario. Twenty to 30 minutes also appeared to allow for substantive discussion of many of the topics outlined in the *Power Hungry* instruction manual. This suggests that, while cases may not be discussed fully in the short time allotted for many classes, cases can nevertheless be discussed in a meaningful and thoughtful way. However, it should be noted that instructors in this investigation and students in past investigations (Zbylut and Ward, 2004a) indicated that they would have liked more time to discuss the film. Thus, instructors should consider lengthening the time of discussion by extending the length of the instructional session or assigning the case study as homework prior to class.

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APPENDIX A

CADET QUESTIONNAIRE

1. Instructor or Discussion Group Leader: _____

2. I am completing this survey **BEFORE** **AFTER** my group has discussed the film.
(circle one)

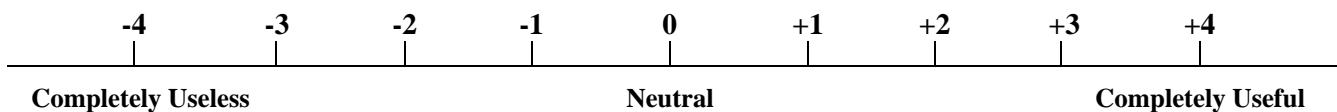
3. Have you ever seen the Power Hungry film before? **Yes** **No**

4. If you answered “yes,” to the previous question, where did you see the film before?

5. List up to 6 of the biggest errors made by the leaders in the Power Hungry scenario. Be specific.

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

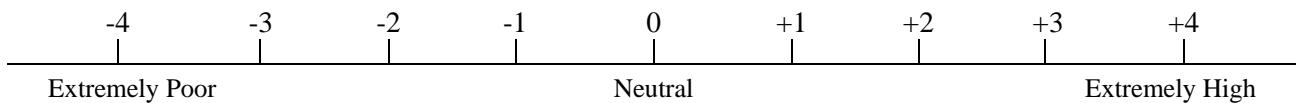
6. How useful was today's discussion in helping you think about leadership issues?



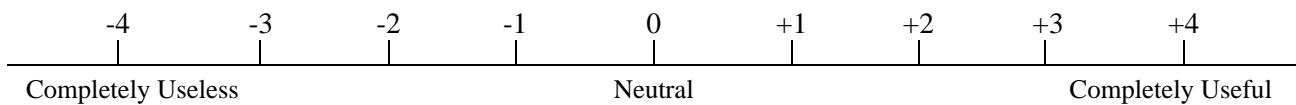
APPENDIX B: INSTRUCTOR QUESTIONNAIRE

1. Name: _____

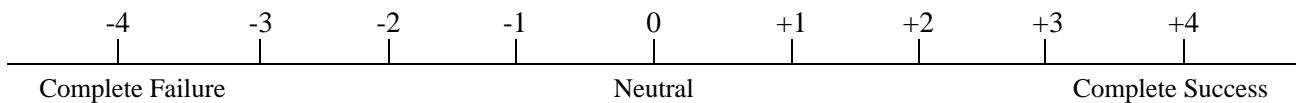
2. How would you rate the overall quality of today's discussion?



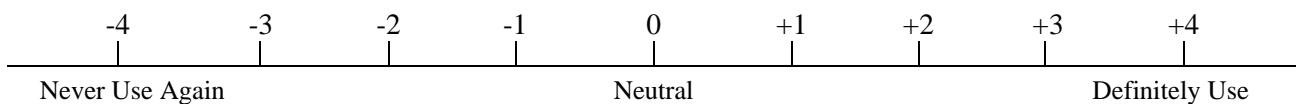
3. How useful was the film as a case study for talking about leadership issues?



4. How well do you think that today's lesson accomplished important learning objectives?



5. To what extent would you recommend using the film again?



6. What would you do the same if you conducted this lesson again?

7. What would you change if you conducted this lesson again?

How much were each of the following topics discussed during today's lesson?

5 = Dominated Most of the Discussion 4 = Quite a Bit of Discussion 3 = Some Discussion 2 = Briefly Mentioned 1 = No Discussion at All	Dominated Most of the Discussion				
	Quite a Bit of Discussion				
	Some Discussion				
	Briefly Mentioned				
	No Discussion at All				
1. Communication Issues.....	1	2	3	4	5
2. Establishing and Communicating Mission Intent and Purpose	1	2	3	4	5
3. Influencing and Persuading Others.....	1	2	3	4	5
4. Cultural Issues	1	2	3	4	5
5. Tactical, Logistical, and Technical Issues	1	2	3	4	5
6. Using the Experience and Advice of NCOs	1	2	3	4	5
7. Ethical Issues	1	2	3	4	5
8. Leading by Example	1	2	3	4	5
9. Planning and Decision Making.....	1	2	3	4	5
10. Directing and Supervising Subordinates	1	2	3	4	5
11. Building Trust.....	1	2	3	4	5
12. Taking Care of Soldiers.....	1	2	3	4	5
13. Respecting Others.....	1	2	3	4	5
14. What Went Wrong in the Scenario.....	1	2	3	4	5
15. What Characters Should Have Done Differently	1	2	3	4	5
16. Self-awareness	1	2	3	4	5
17. Motivating Subordinates.....	1	2	3	4	5
18. Warrior Ethos	1	2	3	4	5
19. Developing Subordinates.....	1	2	3	4	5
20. Establishing a Positive Unit Climate	1	2	3	4	5
21. Negotiation	1	2	3	4	5
22. Situational Awareness	1	2	3	4	5
23. Balancing the Mission with Soldier Welfare	1	2	3	4	5